

FA Log #: 6913	DPA Analyst: J. Okuno	DPA Result: Fail
Part Name and Number: Hybrid DC/DC Converter, 2690M-T12F		
Mfg: Modular Devices, Inc.	Date Code: 9648	Serial #: 2025
JPL Trace #: None	Project: MVACS	Subsystem:

	PROCEDURE	P	F	Results and Comments		
1	External Visual Examination	X		<i>Part Markings:</i> <i>Top: <MDI Logo> 2690M T12F 52202 Δ S/N 2025 D/C 9648</i> <i>Bottom: 2025</i> See Figure 1.		
2	<u>Hermeticity Tests</u>	X		Serial #	Test Result	Comments
	He Fine Leak Test Maximum Allowable He Fine Leak Rate is: 1.0 E -7 Atm. cc/sec			2025	1.4 E -8	15 PSIG He Bomb Pressure
	Bubble Gross Leak Test @ 125°C			No bubbles observed.		
3	Radiographic Examination	X		No anomalies were observed.		
4	<u>Internal Visual Exam</u>		X	See Figure 2 for an internal overview of the part. The following anomalies were observed: 1. A reworked resistor chip was placed with adhesive atop an unused (bad?) resistor chip. See Figure 3. 2. A portion of the metal endcap of a ceramic chip resistor was observed to be missing. This anomaly may have been caused by poor adhesion of the endcap metallization to the ceramic or by mechanical damage to the capacitor. See Figure 4. 3. A poorly trimmed resistor chip (the same reworked chip in item 1). A mechanical probe was used to sever links in the resistor resulting in damage to adjacent resistor links. See Figure 5. 4. Mechanical damage to the die surface of a transistor was observed. The damage was severe enough to crack the protective die surface glassivation and smear the aluminum die surface metallization. See Figure 6. 5. A long, deep scratch was observed in the source contact pad metallization on a transistor. See Figure 7.		

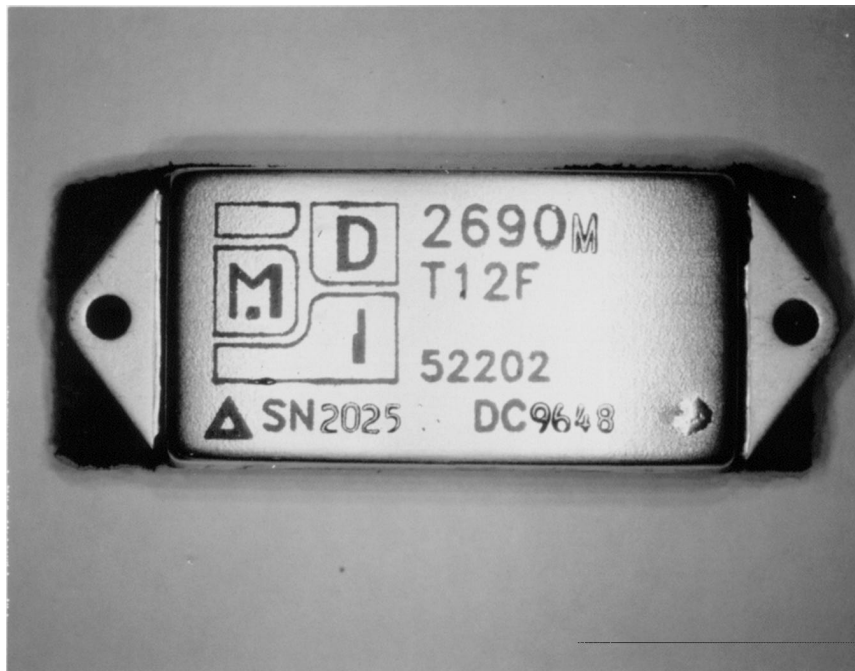


Figure 1. Optical photograph showing part top markings.

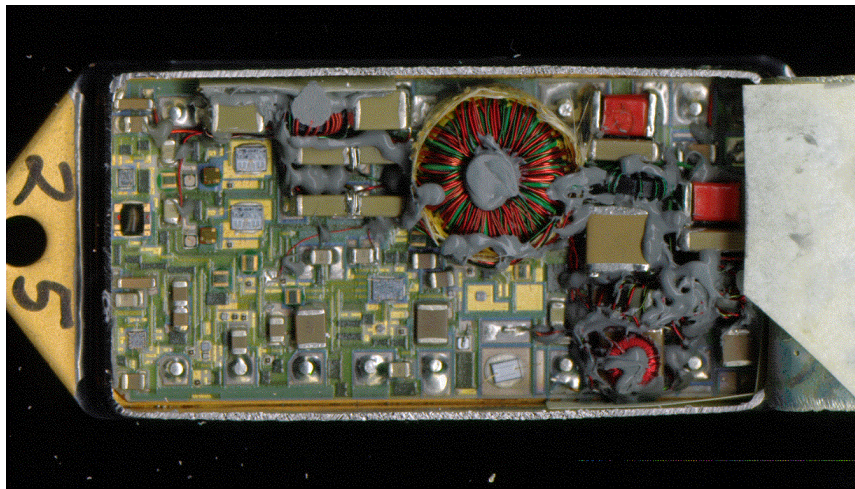


Figure 2. Optical photograph showing the internal overview of the hybrid.

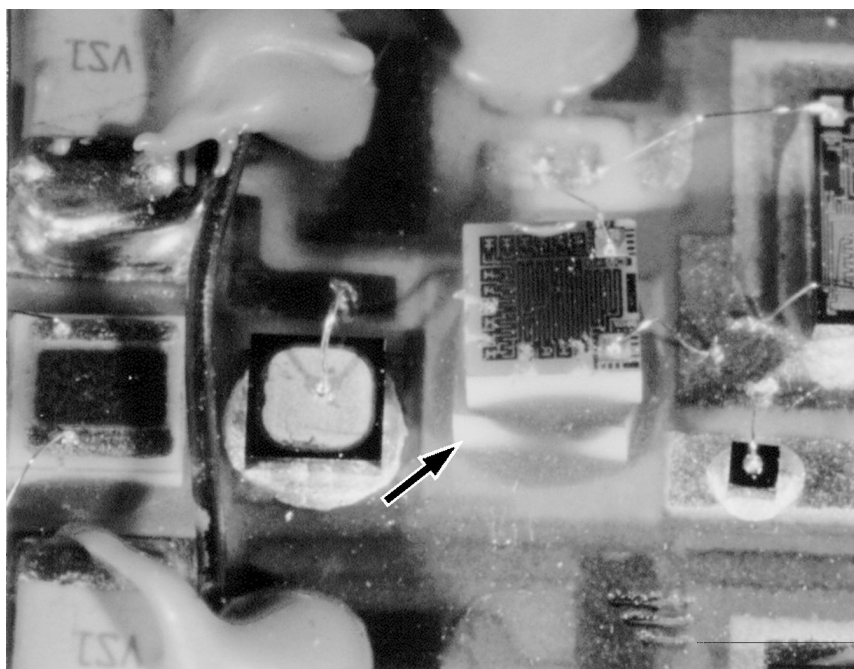


Figure 3. Optical photograph showing a reworked resistor chip stacked atop an unused chip (arrow).

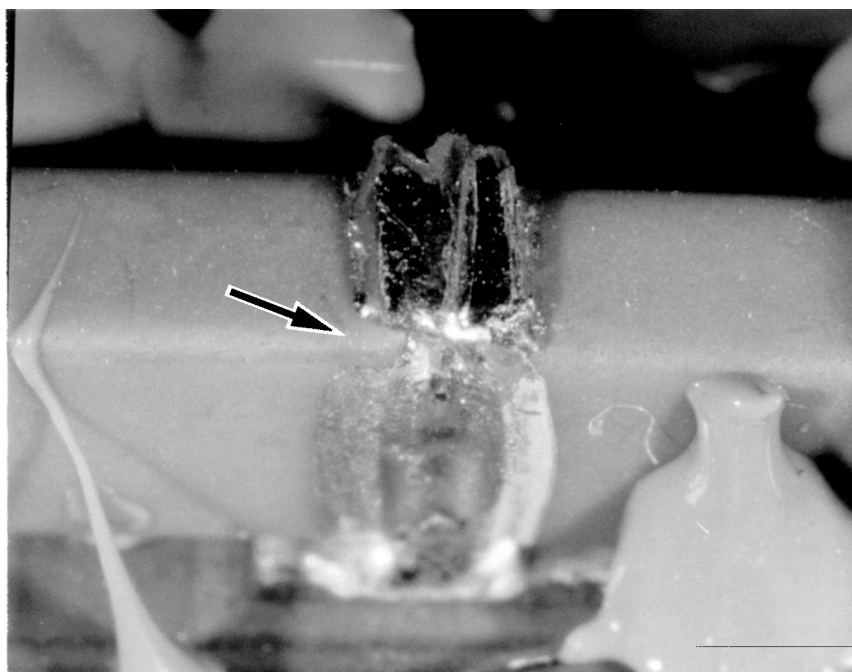


Figure 4. Optical photograph of missing endcap metallization on a ceramic chip capacitor.

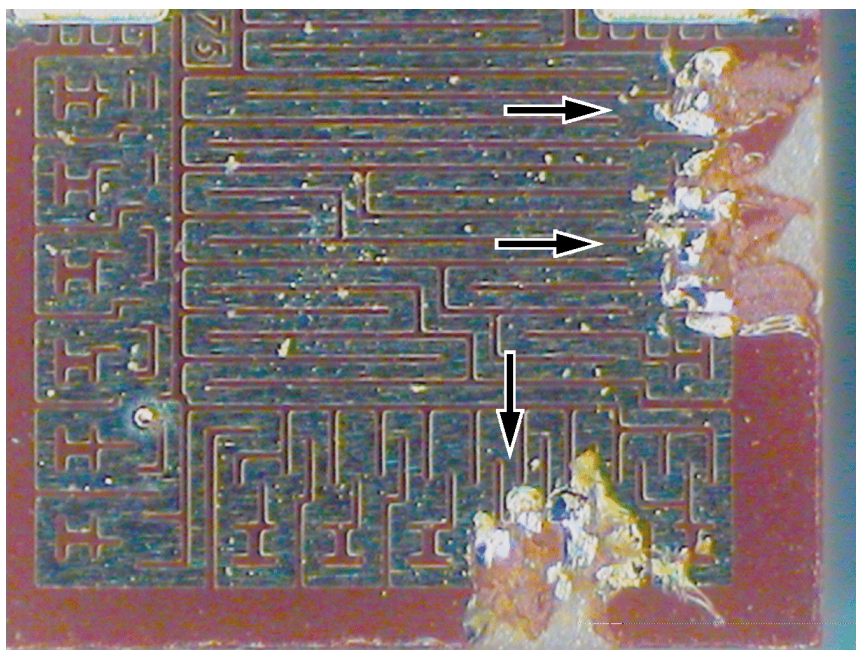


Figure 5. Optical photograph showing the top surface of the reworked resistor (same as Figure 1). The resistor has been trimmed roughly with a mechanical probe as indicated by the arrows.

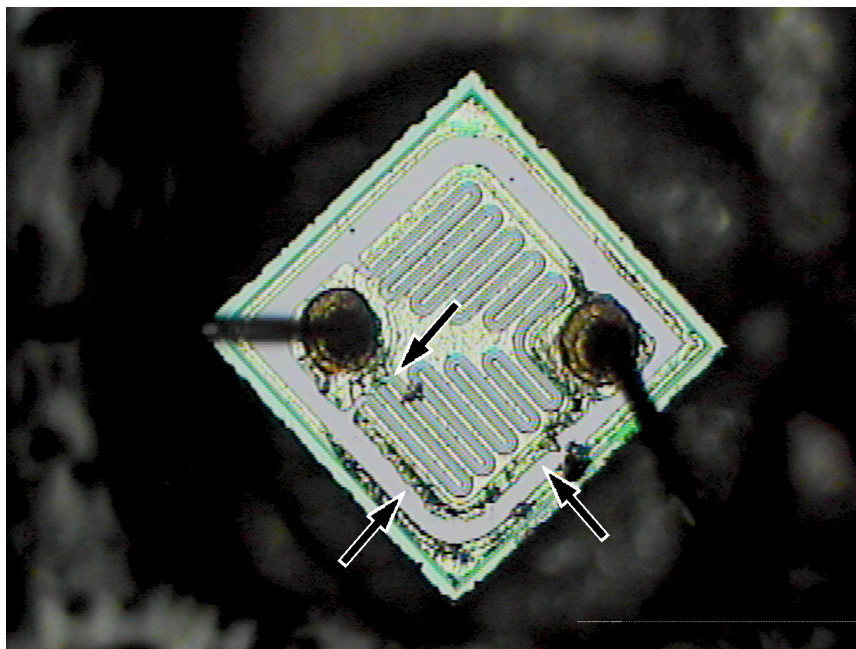


Figure 6. Optical photograph showing damaged die surface metallization (arrows) on a transistor.

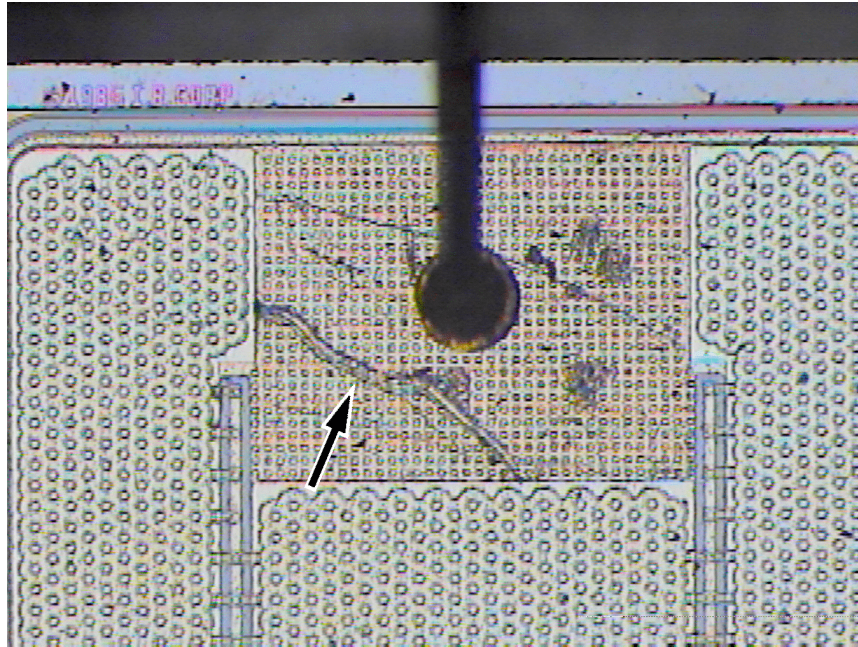


Figure 7. Optical photograph showing a deep scratch (arrow) in the source wirebond pad of a FET.